WO 00/23605

LISTE DE SEQUENCES

PCT/IB99/01719 532 Rec'd FCTTTO 20 APR 2001

<110> UNIVERSITE JOSEPH FOURIER

<120> Séquence d'ADNc transcrivant un ARNm codant pour l'oxydase terminale associée à la biosynthèse des caroténoïdes et utilisations

<130> OTBC

<140>

<141>

<150> FR9813283 <151> 1998-10-20

<160> 5

(J)

() m

١.,[

[]

n

Î=L

[]

į..i.

<170> PatentIn Ver. 2.1

<210> 1

<211> 1396

<212> ADN

<213> Arabidopsis thaliana

<400> 1

ccgctcacat tgggattcgt cattcttctt ctaaaacccg caaaatttct ccatttctac 60 caaaaatatc caacttttac ttttctttcc tgtgaaatta tctgctcaaa tctttggttc 120 ctgacggaga tggcggcgat ttcaggcatc tcctctggta cgttgacgat ttcacggcct 180 ttggttactc ttcgacgctc tagagccgcc gtttcgtaca gctcctctca ccgattgctt 240 catcatcttc ctctcttc tcgtcgtctg ctattaagga acaatcatcg agtccaagca 300 acgattttgc aagacgatga agagaaagtg gtggtggagg aatcgtttaa agccgagact 360 tctactggta cagaaccact tgaggagcca aatatgagtt cttcttcaac tagtgctttt 420 gagacatgga tcatcaagct tgagcaagga gtgaatgttt tccttacaga ctcggttatt 480 aagatacttg acactttgta tcgtgaccga acatatgcaa ggttctttgt tcttgagaca 540 attgctagag tgccttattt tgcgtttatg tctgtgctac atatgtatga gacctttggt 600 tggtggagga gagcagatta tttgaaagta cactttgctg agagctggaa tgaaatgcat 660 cacttgctca taatggaaga attgggtgga aattcttggt ggtttgatcg ttttctggct 720 cagcacatag caaccttcta ctacttcatg acagtgttct tgtatatctt aagccctaga 780 atggcatatc acttttcgga atgtgtggag agtcatgcat atgagactta tgataaattt 840 ctcaaggcca gtggagagga gttgaagaat atgcctgcac cggatatcgc agtaaaatac 900 tatacgggag gtgacttgta cttatttgat gagttccaaa catcaagaac tcccaatact 960 cgaagaccag taatagaaaa tctatacgat gtgtttgtga acataagaga tgatgaagca 1020 gaacactgca agacaatgag agcttgtcag actctaggca gtctgcgttc tccacactcc 1080 attttagatg atgatgatac tgaagaagaa tcagggtgtg ttgttcctga ggaggctcat 1140 tgcgaaggta ttgtagactg cctcaagaaa tccattacaa gttaataaat tagaaagtaa 1200 actaaaaaag attatttgta tcagctcatg aacaatagat ataatcccat atacttggga 1260 ataaaggaat aatgtgaaat toccatogtt gtgctagtgt gtgagagaat caaatacoot 1320

aatgatgtaa atgtactttg atgagcttaa gtcgttgtag accattttat caaaaaaaa 1380 aaaaaaaaaa aaaaaa 1396

<210> 2

<211> 351

<212> PRT

<213> Arabidopsis thaliana

<400> 2

Met Ala Ala Ile Ser Gly Ile Ser Ser Gly Thr Leu Thr Ile Ser Arg

Pro Leu Val Thr Leu Arg Arg Ser Arg Ala Ala Val Ser Tyr Ser Ser 20 25 30

Ser His Arg Leu Leu His His Leu Pro Leu Ser Ser Arg Arg Leu Leu 35 40 45

Leu Arg Asn Asn His Arg Val Gln Ala Thr Ile Leu Gln Asp Asp Glu
50 55 60

Glu Lys Val Val Glu Glu Ser Phe Lys Ala Glu Thr Ser Thr Gly
65 70 75 80

Thr Glu Pro Leu Glu Glu Pro Asn Met Ser Ser Ser Ser Thr Ser Ala 85 90 95

Phe Glu Thr Trp Ile Ile Lys Leu Glu Gln Gly Val Asn Val Phe Leu 100 105 110

Thr Asp Ser Val Ile Lys Ile Leu Asp Thr Leu Tyr Arg Asp Arg Thr 115 120 125

Tyr Ala Arg Phe Phe Val Leu Glu Thr Ile Ala Arg Val Pro Tyr Phe 130 135 140

Ala Phe Met Ser Val Leu His Met Tyr Glu Thr Phe Gly Trp Trp Arg 145 150 155 160

Arg Ala Asp Tyr Leu Lys Val His Phe Ala Glu Ser Trp Asn Glu Met 165 170 175

His His Leu Leu Ile Met Glu Glu Leu Gly Gly Asn Ser Trp Trp Phe 180 185 190

Asp Arg Phe Leu Ala Gln His Ile Ala Thr Phe Tyr Tyr Phe Met Thr 195 200 205

Val Phe Leu Tyr Ile Leu Ser Pro Arg Met Ala Tyr His Phe Ser Glu 210 215 220

Cys Val Glu Ser His Ala Tyr Glu Thr Tyr Asp Lys Phe Leu Lys Ala 225 230 235 240

Ser Gly Glu Glu Leu Lys Asn Met Pro Ala Pro Asp Ile Ala Val Lys 245 250 255

Tyr Tyr Thr Gly Gly Asp Leu Tyr Leu Phe Asp Glu Phe Gln Thr Ser 260 265 270

Arg Thr Pro Asn Thr Arg Arg Pro Val Ile Glu Asn Leu Tyr Asp Val 275 280 285

Phe Val Asn Ile Arg Asp Asp Glu Ala Glu His Cys Lys Thr Met Arg 290 295 300

Ala Cys Gln Thr Leu Gly Ser Leu Arg Ser Pro His Ser Ile Leu Asp 305 310 315 320

Asp Asp Asp Thr Glu Glu Glu Ser Gly Cys Val Val Pro Glu Glu Ala 325 330 335

His Cys Glu Gly Ile Val Asp Cys Leu Lys Lys Ser Ile Thr Ser 340 345 350

<210> 3 <211> 1387 <212> ADN

<213> poivron

<400> 3

ccacgcgtcc gataaaaaaa tcaagaatgg cgatttccat atctgctatg agttttcgaa 60 cttcagttc ttctcatat tcagcattt tgtgcaattc caagaaccca ttttgtttga 120 attctctatt ttcacttagg aattctcata gaactttca gccttcgtta tcaaggaaat 180 caagtagagt tcgagcaacg ttgttaaaag agaatgaaga agaagtggtt gtggagaaat 240 cttttgcacc taagagttt cctggtaatg tgggaggggg aaataatggg gagccacccg 300 ataattcatc ctcgaacggt ctggagaaat gggttataaa gattgagcag tctgtaaata 360 tcttctcac ggattcagtg ataaagattc ttgacactt gtatcacgac cgacactatg 420 cgaggtttt cgttctggaa acaattgcaa gagttcctta ttttgcatt atatctgttc 480 tcacttgta cgagagctt ggttggtgga gacgagcaga ttatctgaag gtgcattttg 540 ccgagagctg gaatgagatg caccatttac tcattatgga ggaattaggt ggaaatgctt 600 ggtggtttga ccgattcctt gcgcaacata ttgctgtatt ctattattc atgacagtct 660 cgatgtatgc tttgagcccg agaatggcat atcattctc tgaatgtgt gagcaccatg 720

catacgagac ttacgataaa ttcatcaagg atcaaggaag ggaattgaag aaattgcccg 780 ctccaaagat tgcagtgagc tactacaccg gaggtgactt gtatttgtte gatgagtte 840 aaacatcacg agagcctaat actcgaaggc caaaaataga taatctgtac gacgtattea 900 tgaacatcag agatgacgaa gcagagcatt gtaagacaat gaaagcgtgt caaaacccatg 960 ggaggcctccg ctcccctcac acaaatccat gcgatgagte tgaagacgat ccaggttgtt 1020 cagtgcctca ggccgattgt gtaggtateg tggattgtat aacgaaatct gtcgctgate 1080 ctaacgtcgg cagaaggtag ggaaaggaaa aacgcagaac gaaactatac atgtatatac 1140 cagtacagcc aaatatacaa gaaatataca tacatattgt atctttact ctctgaggaa 1200 gagcttgtca aactatgaac aaaattggcc cggcacacta caactccata ggggtcctgt 1320 tacgcttctg aactaaatt taacatatt ttgtcaacct tctcagcaaa aaaaaaaaa 1380 aaaaaaaa

<210> 4 <211> 357 <212> PRT <213> poivron

<400> 4

Met Ala Ile Ser Ile Ser Ala Met Ser Phe Arg Thr Ser Val Ser Ser

1 5 10 15

Ser Tyr Ser Ala Phe Leu Cys Asn Ser Lys Asn Pro Phe Cys Leu Asn 20 25 30

Ser Leu Phe Ser Leu Arg Asn Ser His Arg Thr Phe Gln Pro Ser Leu 35 40 45

Ser Arg Lys Ser Ser Arg Val Arg Ala Thr Leu Leu Lys Glu Asn Glu

Glu Glu Val Val Glu Lys Ser Phe Ala Pro Lys Ser Phe Pro Gly
65 70 75 80

Asn Val Gly Gly Gly Asn Asn Gly Glu Pro Pro Asp Asn Ser Ser Ser 85 90 95

Asn Gly Leu Glu Lys Trp Val Ile Lys Ile Glu Gln Ser Val Asn Ile 100 105 110

Phe Leu Thr Asp Ser Val Ile Lys Ile Leu Asp Thr Leu Tyr His Asp 115 120 125

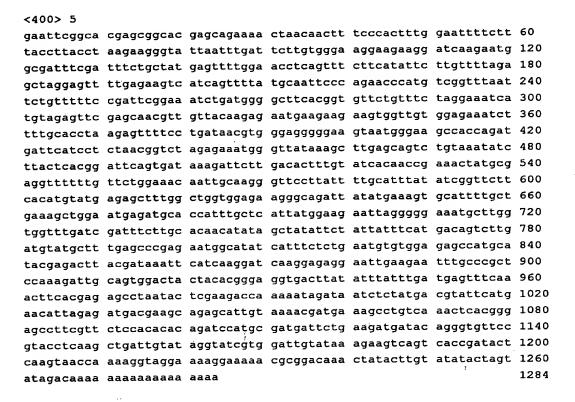
Arg His Tyr Ala Arg Phe Phe Val Leu Glu Thr Ile Ala Arg Val Pro 130 135 140

Tyr Phe Ala Phe Ile Ser Val Leu His Leu Tyr Glu Ser Phe Gly Trp

145					150					155					160
Trp	Arg	Arg	Ala	Asp 165	туг	Leu	Lys	Val	His 170	Phe	Ala	Glu	Ser	Trp 175	Asn
Glu	Met	His	His 180	Leu	Leu	Ile	Met	Glu 185	Glu	Leu	Gly	Gly	Asn 190	Ala	Trp
Trp	Phe	Asp 195	Arg	Phe	Leu	Ala	Gln 200	His	Ile	Ala	Val	Phe 205	Туг	Tyr	Phe
Met	Thr 210	Val	Ser	Met	туr	Ala 215	Leu	ser	Pro	Arg	Met 220	Ala	Туr	His	Phe
Ser 225	Glu	Cys	Val	Glu	His 230	His	Ala	туг	Glu	Thr 235	туг	Asp	Lys	Phe	11e 240
Lys	Asp	Gln	Glu	Ala 245	Glu	Leu	Lys	Lys	Leu 250	Pro	Ala	Pro	Lys	Ile 255	Ala
Val	Ser	Туг	Tyr 260	Thr	Gly	Gly	Asp	Leu 265	Туr	Leu	Phe	Asp	Glu 270	Phe .:	Gln
Thr	Ser	Arg 275	Glu	Pro	Asn	Thr	Arg 280	Arg	Pro	Lys	Ile	Asp 285	Asn	Leu	туг
Asp	Val 290	Phe	Met	Asn	Ile	Arg 295	Asp	Asp	Glu	Ala	Glu 300	His	Cys	Lys	Thr
Met 305	Lys	Ala	Cys	Gln	Thr 310	His	Gly	Ser	Leu	Arg 315	Ser	Pro	His	Thr	Asn 320
Pro	Cys	Asp	Glu	Ser 325	Glu	Asp	Asp	Pro	Gly 330	Cys	Ser	Val	Pro	Gln 335	Ala
Asp	Cys	Val	Gly 340	Ile	Val	Asp	Cys	Ile 345	Thr	Lys	Ser	Val	Ala 350	Asp	Pro

Asn Val Gly Arg Arg 355

<210> 5 <211> 1284 <212> ADN <213> tomate



SEQUENCE LISTING

<110> CAROL, Pierre

KUNTZ, Marcel

MACHE, Regis

<120> cDNA SEQUENCE TRANSCRIBING AN mRNA ENCODING THE TERMINAL OXIDASE ASSOCIATED WITH CAROTENOID BIOSYNTHESIS, AND USES THEREOF

<130> 109326

<140> US 09/807,867

<141> 2001-06-15

<150> PCT/IB99/01719

<151> 1999-10-20

<150> FR 9813283

<151> 1998-10-20

<160> 10

<170> PatentIn version 3.0

<210> 1

<211> 1396

<212> DNA

<213> Arabidopsis thaliana

<400> 1

ccgctcacat	tgggattcgt	cattcttctt	ctaaaacccg	caaaatttct	ccatttctac	60
caaaaatatc	caacttttac	ttttctttcc	tgtgaaatta	tctgctcaaa	tctttggttc	120
ctgacggaga	tggcggcgat	ttcaggcatc	tcctctggta	cgttgacgat	ttcacggcct	180
ttggttactc	ttcgacgctc	tagagccgcc	gtttcgtaca	gctcctctca	ccgattgctt	240
catcatcttc	ctctctcttc	tcgtcgtctg	ctattaagga	acaatcatcg	agtccaagca	300
acgattttgc	aagacgatga	agagaaagtg	gtggtggagg	aatcgtttaa	agccgagact	360
tctactggta	cagaaccact	tgaggagcca	aatatgagtt	cttcttcaac	tagtgctttt	420
gagacatgga	tcatcaagct	tgagcaagga	gtgaatgttt	tccttacaga	ctcggttatt	480
aagatacttg	acactttgta	tcgtgaccga	acatatgcaa	ggttctttgt	tcttgagaca	540

600 attgctagag tgccttattt tgcgtttatg tctgtgctac atatgtatga gacctttggt tggtggagga gagcagatta tttgaaagta cactttgctg agagctggaa tgaaatgcat 660 cacttgctca taatggaaga attgggtgga aattcttggt ggtttgatcg ttttctggct 720 cagcacatag caaccttcta ctacttcatg acagtgttct tgtatatctt aagccctaga 780 840 atggcatatc acttttcgga atgtgtggag agtcatgcat atgagactta tgataaattt 900 ctcaaggcca gtggagagga gttgaagaat atgcctgcac cggatatcgc agtaaaatac 960 tatacgggag gtgacttgta cttatttgat gagttccaaa catcaagaac tcccaatact cgaagaccag taatagaaaa totatacgat gtgtttgtga acataagaga tgatgaagca 1020 gaacactgca agacaatgag agcttgtcag actctaggca gtctgcgttc tccacactcc 1080 attttagatg atgatgatac tgaagaagaa tcagggtgtg ttgttcctga ggaggctcat 1140 tgcgaaggta ttgtagactg cctcaagaaa tccattacaa gttaataaat tagaaagtaa 1200 1260 actaaaaaag attatttgta tcagctcatg aacaatagat ataatcccat atacttggga 1320 ataaaggaat aatgtgaaat tcccatcgtt gtgctagtgt gtgagagaat caaataccct 1380 aatgatgtaa atgtactttg atgagcttaa gtcgttgtag accattttat caaaaaaaa 1396 aaaaaaaaa aaaaaa

<210> 2 <211> 351 <212> PRT <213> Arabidopsis thaliana <400> 2 Met Ala Ala Ile Ser Gly Ile Ser Ser Gly Thr Leu Thr Ile Ser Arg 15 5 10 Pro Leu Val Thr Leu Arg Arg Ser Arg Ala Ala Val Ser Tyr Ser Ser 30 20 25 Ser His Arg Leu Leu His His Leu Pro Leu Ser Ser Arg Arg Leu Leu 45 40 35 Leu Arg Asn Asn His Arg Val Gln Ala Thr Ile Leu Gln Asp Asp Glu 60 55 50

Glu Lys Val Val Val Glu Glu Ser Phe Lys Ala Glu Thr Ser Thr Gly

70 75 80

Thr Glu Pro Leu Glu Glu Pro Asn Met Ser Ser Ser Ser Thr Ser Ala 85 90 95

Phe Glu Thr Trp Ile Ile Lys Leu Glu Gln Gly Val Asn Val Phe Leu 100 105 110

Thr Asp Ser Val Ile Lys Ile Leu Asp Thr Leu Tyr Arg Asp Arg Thr
115 120 125

Tyr Ala Arg Phe Phe Val Leu Glu Thr Ile Ala Arg Val Pro Tyr Phe
130 135 140

Arg Ala Asp Tyr Leu Lys Val His Phe Ala Glu Ser Trp Asn Glu Met
165 170 175

His His Leu Leu Ile Met Glu Glu Leu Gly Gly Asn Ser Trp Trp Phe
180 185 190

Asp Arg Phe Leu Ala Gln His Ile Ala Thr Phe Tyr Tyr Phe Met Thr

195 200 205

Val Phe Leu Tyr Ile Leu Ser Pro Arg Met Ala Tyr His Phe Ser Glu 210 215 220

Cys Val Glu Ser His Ala Tyr Glu Thr Tyr Asp Lys Phe Leu Lys Ala 225 230 235 240

Ser Gly Glu Glu Leu Lys Asn Met Pro Ala Pro Asp Ile Ala Val Lys

245
250
255

Tyr Tyr Thr Gly Gly Asp Leu Tyr Leu Phe Asp Glu Phe Gln Thr Ser
260 265 270

275 280 285
Phe Val Asn Ile Arg Asp Asp Glu Ala Glu His Cys Lys Thr Met Arg 290 295 300
Ala Cys Gln Thr Leu Gly Ser Leu Arg Ser Pro His Ser Ile Leu Asp
305 310 315 320
Asp Asp Asp Thr Glu Glu Glu Ser Gly Cys Val Val Pro Glu Glu Ala
325 330 335
His Cys Glu Gly Ile Val Asp Cys Leu Lys Lys Ser Ile Thr Ser
340 345 350
<210> 3
<211> 1387
<212> DNA
<213> capsicum
<400> 3
ccacgcgtcc gataaaaaa tcaagaatgg cgatttccat atctgctatg agttttcgaa 60
cttcagtttc ttcttcatat tcagcatttt tgtgcaattc caagaaccca ttttgtttga 120
attctctatt ttcacttagg aattctcata gaacttttca gccttcgtta tcaaggaaat 180

caagtagagt tcgagcaacg ttgttaaaag agaatgaaga agaagtggtt gtggagaaat

240

300 cttttgcacc taagagtttt cctggtaatg tgggagggg aaataatggg gagccacccg 360 ataattcatc ctcgaacggt ctggagaaat gggttataaa gattgagcag tctgtaaata tctttctcac ggattcagtg ataaagattc ttgacacttt gtatcacgac cgacactatg 420 480 cgaggttttt cgttctggaa acaattgcaa gagttcctta ttttgcattt atatctgttc ttcacttgta cgagagcttt ggttggtgga gacgagcaga ttatctgaag gtgcattttg 540 600 ccgagagctg gaatgagatg caccatttac tcattatgga ggaattaggt ggaaatgctt ggtggtttga ccgattcctt gcgcaacata ttgctgtatt ctattatttc atgacagtct 660 cgatgtatgc tttgagcccg agaatggcat atcatttctc tgaatgtgtg gagcaccatg 720 780 catacgagac ttacgataaa ttcatcaagg atcaagaagc ggaattgaag aaattgcccg ctccaaagat tgcagtgagc tactacaccg gaggtgactt gtatttgttc gatgagtttc 840 900 aaacatcacg agagcctaat actcgaaggc caaaaataga taatctgtac gacgtattca tgaacatcag agatgacgaa gcagagcatt gtaagacaat gaaagcgtgt caaacccatg 960 1020 ggagcctccg ctcccctcac acaaatccat gcgatgagtc tgaagacgat ccaggttgtt cagtgcctca ggccgattgt gtaggtatcg tggattgtat aacgaaatct gtcgctgatc 1080 ctaacgtcgg cagaaggtag ggaaaggaaa aacgcagaac gaaactatac atgtatatac 1140

cagtacagcc	aaatatacaa	gaaatataca	tacatattgt	atcttttact	ctctgaggaa	1200
gagcttgtca	aattgcccaa	aaaatgggta	ggcacttggt	tttgttttca	cctttcaata	1260
atttgtacta	aactatgaac	aaatttgctc	cggcacacta	caactccata	ggggtcctgt	1320
tacgcttctg	aactaaattt	taacatattt	ttgtcaacct	tctcagcaaa	aaaaaaaaa	1380
aaaaaaa						1387

<210> 4

<211> 357

<212> PRT

<213> capsicum

<400> 4

Met Ala Ile Ser Ile Ser Ala Met Ser Phe Arg Thr Ser Val Ser Ser 1 5 10 15

Ser Tyr Ser Ala Phe Leu Cys Asn Ser Lys Asn Pro Phe Cys Leu Asn 20 25 30

Ser Leu Phe Ser Leu Arg Asn Ser His Arg Thr Phe Gln Pro Ser Leu 35

65

Ser Arg Lys Ser Ser Arg Val Arg Ala Thr Leu Leu Lys Glu Asn Glu 50 55 60 Glu Glu Val Val Val Glu Lys Ser Phe Ala Pro Lys Ser Phe Pro Gly

75

80

Asn Val Gly Gly Asn Asn Gly Glu Pro Pro Asp Asn Ser Ser Ser
85 90 95

70

Asn Gly Leu Glu Lys Trp Val Ile Lys Ile Glu Gln Ser Val Asn Ile
100 105 110

Phe Leu Thr Asp Ser Val Ile Lys Ile Leu Asp Thr Leu Tyr His Asp

115 120 125

Arg His Tyr Ala Arg Phe Phe Val Leu Glu Thr Ile Ala Arg Val Pro 130 135 140

Trp Arg Arg Ala Asp Tyr Leu Lys Val His Phe Ala Glu Ser Trp Asn

165 170 175

Glu Met His His Leu Leu Ile Met Glu Glu Leu Gly Gly Asn Ala Trp

180 185 190

Trp Phe Asp Arg Phe Leu Ala Gln His Ile Ala Val Phe Tyr Tyr Phe
195 200 205

Met Thr Val Ser Met Tyr Ala Leu Ser Pro Arg Met Ala Tyr His Phe
210 215 220

Ser Glu Cys Val Glu His His Ala Tyr Glu Thr Tyr Asp Lys Phe Ile
225 230 235 240

Lys Asp Gln Glu Ala Glu Leu Lys Lys Leu Pro Ala Pro Lys Ile Ala
245 250 255

Val Ser Tyr Tyr Thr Gly Gly Asp Leu Tyr Leu Phe Asp Glu Phe Gln
260 265 270

Thr Ser Arg Glu Pro Asn Thr Arg Arg Pro Lys Ile Asp Asn Leu Tyr
275 280 285

Asp Val Phe Met Asn Ile Arg Asp Asp Glu Ala Glu His Cys Lys Thr
290 295 300

Met Lys Ala Cys Gln Thr His Gly Ser Leu Arg Ser Pro His Thr Asn 305 310 315 320

Pro Cys Asp Glu Ser Glu Asp Asp Pro Gly Cys Ser Val Pro Gln Ala
325 330 335

Asp Cys Val Gly Ile Val Asp Cys Ile Thr Lys Ser Val Ala Asp Pro

Asn Val Gly Arg Arg

355

<210> 5

<211> 1284

<212> DNA

<400> 5

<213> tomato

taccttacct aagaagggta ttaatttgat tcttgtggga aggaagaagg atcaagaatg
gcgatttcga tttctgctat gagttttgga acctcagttt cttcatattc ttgttttaga
gctaggagtt ttgagaagtc atcagttta tgcaattccc agaacccatg tcggtttaat
tctgttttc cgattcggaa atctgatggg gcttcacggt gttctgttc taggaaatca
tgtagagttc gagcaacgtt gttacaagag aatgaagaag aagtggttgt ggagaaatct
tttgcaccta agagttttcc tgataacgtg ggagggggaa gtaatgggaa gccaccagat
gattcatcct ctaacggtct agagaaatgg gttataaagc ttgagcagtc tgtaaatatc
ttactcacgg attcagtgat aaagattctt gacactttgt atcacaaccg aaactatgcg

gaattcggca cgagcggcac gagcagaaaa ctaacaactt tcccactttg gaattttctt

60

120

180

240

300

360

420

480

540

600

660

720

aggttttttg ttctggaaac aattgcaagg gttccttatt ttgcatttat atcggttctt

cacatgtatg agagetttgg etggtggaga agggeagatt atatgaaagt geattttget

gaaagctgga atgagatgca ccatttgctc attatggaag aattaggggg aaatgcttgg

tggtttgatc	gatttcttgc	acaacatata	gctatattct	attatttcat	gacagtcttg	780
atgtatgctt	tgagcccgag	aatggcatat	catttctctg	aatgtgtgga	gagccatgca	840
tacgagactt	acgataaatt	catcaaggat	caaggagagg	aattgaagaa	tttgcccgct	900
ccaaagattg	cagtggacta	ctacacggga	ggtgacttat	atttatttga	tgagtttcaa	960
acttcacgag	agcctaatac	tcgaagacca	aaaatagata	atctctatga	cgtattcatg	1020
aacattagag	atgacgaagc	agagcattgt	aaaacgatga	aagcctgtca	aactcacggg	1080
agccttcgtt	ctccacacac	agatccatgc	gatgattctg	aagatgatac	agggtgttcc	1140
gtacctcaag	ctgattgtat	aggtatcgtg	gattgtataa	agaagtcagt	caccgatact	1200
caagtaacca	aaaggtagga	aaaggaaaaa	cgcggacaaa	ctatacttgt	atatactagt	1260
atagacaaaa	aaaaaaaaaa	aaaa				1284

- <210> 6
- <211> 19
- <212> DNA
- <213> Artificial

<220>

[]
111
11
123
÷=:}
111
ij1
إيد
31
17
Ü
į.
1,17
[2]
įk

<400>	6
gcaacg	attt tgcaagacg
<210>	7
<211>	24
<212>	DNA
<213>	Artificial
<220S	
\220>	
<223>	PCR primer
<400>	7
ttaact	tgta atggatttct tgag
<210>	8
<211>	171
<212>	PRT
<213>	soybean
	<pre>gcaacga <210> <211> <212> <213> <223> <400> ttaact <210> <211> <212></pre>

<400> 8

<223> PCR primer

		19
1		24

Tyr	Arg	Thr	Val	Lys	Leu	Leu	Arg	Ile	Pro	Thr	Asp	Leu	Phe	Phe	Lys
1				5					10					15	
Arg	Arg	Tyr	Gly	Cys	Arg	Ala	Met	Met	Leu	Glu	Thr	Val	Ala	Ala	Val
			20					25					30		
Pro	Gly	Met	Val	Gly	Gly	Met	Leu	Leu	His	Leu	Arg	Ser	Leu	Arg	Lys
		35					40					45			
Phe	Gln	Gln	Ser	Gly	Gly	Trp	Ile	Lys	Ala	Leu	Leu	Glu	Glu	Ala	Glu
	50					55					60				
Asn	Glu	Arg	Met	His	Leu	Met	Thr	Met	Val	Glu	Leu	Val	Lys	Pro	Lys
65					70					75					80
Trp	Tyr	Glu	Arg	Leu	Leu	Val	Leu	Ala	Val	Gln	Gly	Val	Phe	Phe	Asn
				85					90					95	
Ala	Phe	Phe	Val	Leu	Tyr	Ile	Leu	Ser	Pro	Lys	Val	Ala	His	Arg	Ile
			100					105					110		
Val	Gly	Tyr	Leu	Glu	Glu	Glu	Ala	Ile	His	Ser	Tyr	Thr	Glu	Tyr	Leu
		115					120					125			
Lys	Asp	Leu	Glu	Ser	Gly	Ala	Ile	Glu	Asn	Val	Pro	Ala	Pro	Ala	Ile
	130					135					140				
Ala	Ile	Asp	Tyr	Trp	Arg	Leu	Pro	Lys	Asp	Ala	Arg	Leu	Lys	Asp	Val

Ile Thr Val Ile Arg Ala Asp Glu Ala His His 165 170

<210> 9

<211> 366

<212> PRT

<213> tomato

<400> 9

Met Ala Ile Ser Ile Ser Ala Met Ser Phe Gly Thr Ser Val Ser Ser 1 5 10 15

Tyr Ser Cys Phe Arg Ala Arg Ser Phe Glu Lys Ser Ser Val Leu Cys
20 25 30

Asn Ser Gln Asn Pro Cys Arg Phe Asn Ser Val Phe Pro Ile Arg Lys
35 40 45

Ser Asp Gly Ala Ser Arg Cys Ser Val Ser Arg Lys Ser Cys Arg Val 50 55 60

Arg Ala Thr Leu Leu Gln Glu Asn Glu Glu Glu Val Val Glu Lys
65 70 75 80

Ser Phe Ala Pro Lys Ser Phe Pro Asp Asn Val Gly Gly Gly Ser Asn 85 90 95

Gly Lys Pro Pro Asp Asp Ser Ser Ser Asn Gly Leu Glu Lys Trp Val 105 110 100 Ile Lys Leu Glu Gln Ser Val Asn Ile Leu Leu Thr Asp Ser Val Ile 120 125 115 Lys Ile Leu Asp Thr Leu Tyr His Asn Arg Asn Tyr Ala Arg Phe Phe 140 135 130 Val Leu Glu Thr Ile Ala Arg Val Pro Tyr Phe Ala Phe Ile Ser Val 160 155 150 145 Leu His Met Tyr Glu Ser Phe Gly Trp Trp Arg Arg Ala Asp Tyr Met 175 165 170

Lys Val His Phe Ala Glu Ser Trp Asn Glu Met His His Leu Leu Ile 180 185 190

Met Glu Glu Leu Gly Gly Asn Ala Trp Trp Phe Asp Arg Phe Leu Ala
195 200 205

Gln His Ile Ala Ile Phe Tyr Tyr Phe Met Thr Val Leu Met Tyr Ala
210 215 220

Leu Ser Pro Arg Met Ala Tyr His Phe Ser Glu Cys Val Glu Ser His
225 230 235 240

Ala Tyr Glu Thr Tyr Asp Lys Phe Ile Lys Asp Gln Gly Glu Glu Leu
245 250 255

Lys Asn Leu Pro Ala Pro Lys Ile Ala Val Asp Tyr Tyr Thr Gly Gly
260 265 270

Asp Leu Tyr Leu Phe Asp Glu Phe Gln Thr Ser Arg Glu Pro Asn Thr
275 280 285

Arg Arg Pro Lys Ile Asp Asn Leu Tyr Asp Val Phe Met Asn Ile Arg 290 295 300

Asp Asp Glu Ala Glu His Cys Lys Thr Met Lys Ala Cys Gln Thr His 305 310 315 315

Gly Ser Leu Arg Ser Pro His Thr Asp Pro Cys Asp Asp Ser Glu Asp 325 330 335

Asp Thr Gly Cys Ser Val Pro Gln Ala Asp Cys Ile Gly Ile Val Asp 340 345 350

Cys Ile Lys Lys Ser Val Thr Asp Thr Gln Val Thr Lys Arg
355 360 365

<210> 10

<211> 357

<212> PRT

<213> capsicum

<400> 10

Met	Ala	Ile	Ser	Ile	Ser	Ala	Met	Ser	Phe	Arg	Thr	Ser	Val	Ser	Ser
1				5					10					15	
Ser	Tyr	Ser	Ala	Phe	Leu	Cys	Asn	Ser	Lys	Asn	Pro	Phe	Cys	Leu	Asn
			20					25					30		
Ser	Leu	Phe	Ser	Leu	Arg	Asn	Ser	His	Arg	Thr	Phe	Gln	Pro	Ser	Leu
		35					40					45			
Ser	Arg	Lys	Ser	Ser	Arg	Val	Arg	Ala	Thr	Leu	Leu	Lys	Glu	Asn	Glu
	50					55					60				
Glu	Glu	Val	Val	Val	Glu	Lys	Ser	Phe	Ala	Pro	Lys	Ser	Phe	Pro	
65					70					75					80
														_	_
Asn	Val	Gly	Gly		Asn	Asn	Gly	Glu		Pro	Asp	Asn	Ser		Ser
				85					90					95	
												_	7	_	- 1 -
Asn	Gly	Leu		Lys	Trp	Val	Ile		Ile	Glu	Gln	Ser		Asn	Ile
			100					105					110		
							_		_	_	m)	.		77.º -	7.00
Phe	Leu			Ser	Val	Ile			Leu	Asp	Tnr			HIS	Asp
		115					120					125			
		_		_	5 1	D)	77 - J	T	C1	mb ×	Tla	71 -	λκα	Val	Pro
Arg			Ala	Arg	Pne			ьeu	GIU	IIIL		АІа	ALG	Val	Pro
	130					135					140				
m	Db	л 1 –	Dh -	т1-		. Wal	Len	Hie	ויב, ז	ጥህን	Glu	Ser	Phe	G1 v	Trp
_		ΑΙΑ	rne	тте	150		. шеu		ъеu	155		JCI	2	1	160
145					100					100					

Trp Arg Arg Ala Asp Tyr Leu Lys Val His Phe Ala Glu Ser Trp Asn

165 170 175

Glu Met His His Leu Leu Ile Met Glu Glu Leu Gly Gly Asn Ala Trp

180 185 190

Trp Phe Asp Arg Phe Leu Ala Gln His Ile Ala Val Phe Tyr Tyr Phe
195 200 205

Met Thr Val Ser Met Tyr Ala Leu Ser Pro Arg Met Ala Tyr His Phe 210 215 220

Ser Glu Cys Val Glu His His Ala Tyr Glu Thr Tyr Asp Lys Phe Ile
225 230 235 235 240

Lys Asp Gln Glu Ala Glu Leu Lys Lys Leu Pro Ala Pro Lys Ile Ala
245 250 255

Val Ser Tyr Tyr Thr Gly Gly Asp Leu Tyr Leu Phe Asp Glu Phe Gln
260 265 270

Thr Ser Arg Glu Pro Asn Thr Arg Arg Pro Lys Ile Asp Asn Leu Tyr 275 280 285

Asp Val Phe Met Asn Ile Arg Asp Asp Glu Ala Glu His Cys Lys Thr
290 295 300

Met Lys Ala Cys Gln Thr His Gly Ser Leu Arg Ser Pro His Thr Asn 305 310 315 320

Pro Cys Asp Glu Ser Glu Asp Asp Pro Gly Cys Ser Val Pro Gln Ala
325 330 335

Asp Cys Val Gly Ile Val Asp Cys Ile Thr Lys Ser Val Ala Asp Pro 340 345 350

Asn Val Gly Arg Arg 355